Guaranteed Income or Investment-Linked Income: Framework to Choose the Right Retirement Income Product

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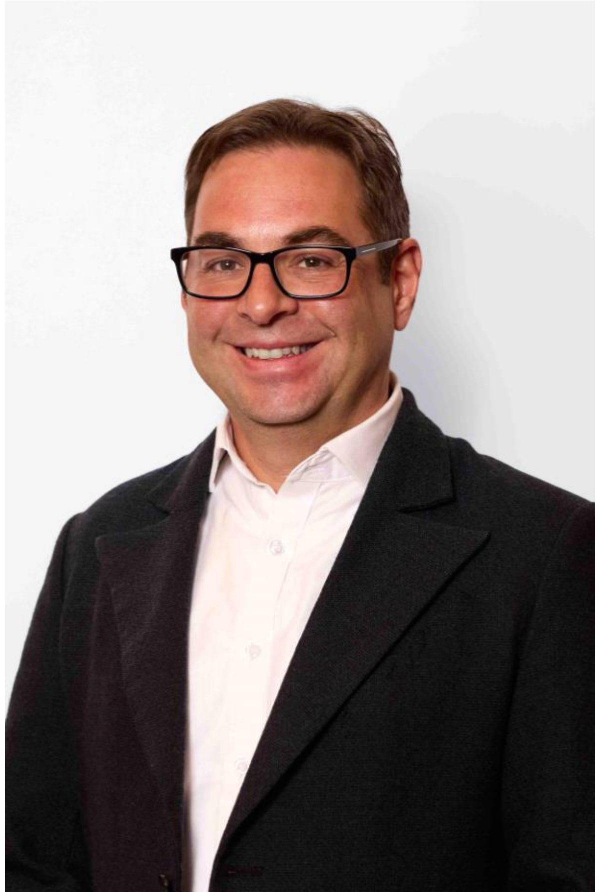
Azuria Partners

Introduction

Azuria Partners has breadth and depth of actuarial expertise in Australian Life Insurance.



Azuria Partners is a boutique consultancy that supports institutional clients with Life Insurance pricing expertise and Reinsurance Strategy.

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Context

A fast-evolving context on Retirement Income

- Retirement Income Covenant (2022)
- Guidance on best practice principles for superannuation retirement income solutions (Consultation paper)
- Australia's Retirement Income System – Public Policy Statement

Superfunds expected to step up their retirement income strategy

- Growing pressure to offer more than generic solutions (Cohorting...)
- Call for Lifetime income solutions getting louder

Super funds to demonstrate the value of the solutions

- Take-up can only happen if Super funds show the value of Lifetime income to members
- The value of a lifetime income product may vary widely between different members

The Challenge for Super funds

Key questions members need answered to see the value of lifetime income products.

Will I be financially better off overall?

- Clear evidence that a lifetime income product can improve my retirement security compared to relying solely on account-based drawdowns.

How much additional income could I receive?

- Practical, personalised projections showing the expected uplift in income and the impact on Age Pension eligibility.

What risks does it help me manage – and what risks remain?

- Transparent explanation of longevity risk protection, investment risk sharing, product guarantees, and liquidity considerations.

What if I don't expect to live as long because of my health or occupation?

- Fairness and equity addressed openly – including how product design, underwriting, or alternative options ensure value for members with shorter life expectancies or physically demanding work histories.

Key Metrics for Value Assessment

Azuria applies three integrated evaluation metrics to objectively measure and demonstrate the value of lifetime income solutions.

Generated Additional Income (GAIN):

- Measures **expected** extra income vs. a standard drawdown strategy.
- Incorporates tailored life expectancies & individual risk tolerance.

Probability of Being Better Off:

- Uses **stochastic** asset returns and age at death to estimate likelihood of higher lifetime outcomes vs. a standard drawdown strategy.
- Calculated over the simulated lifespan

Individual Value at Risk (iVaR):

- Measures the tolerance of the retiree to loss of income
- Defined using x% worst-case cumulated lifetime income over the lifespan.
- Accounts for investment randomness & uncertain lifespan.

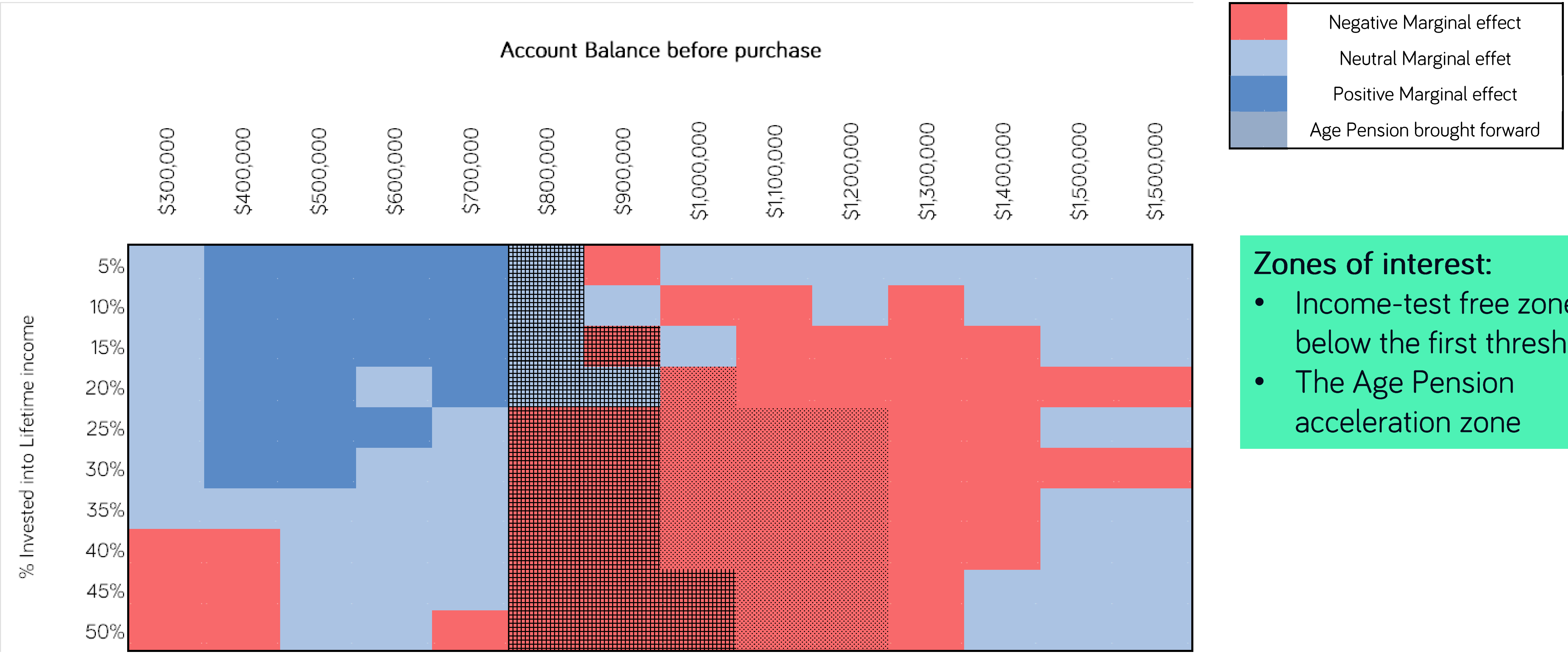
Key Metrics for Value Assessment – Longevity Uplift

- The Longevity or Annuitisation Uplift is a component of the Generated Additional Income and corresponds to the additional income that is achieved by transferring longevity risk, given an x% risk of running out of income with a drawdown strategy.
- The Longevity Uplift incorporates tailored mortality assumptions to calculate the risk of running out of income with a drawdown strategy
- Below is the % Longevity Uplift for a 67 year-old male and 1 in 4 risk of running out, with the annuitisation priced at the average male mortality and a 4% discount rate.

67 y-o male – 25% risk	Socioeconomic deciles from deprived to advantaged				
Group	D1	D3	D5	D7	D10
Homeowner - Partnered	16%	18%	19%	20%	21%
Homeowner - Single	10%	13%	15%	17%	18%
Non-homeowner - Partnered	10%	13%	15%	17%	18%
Non-homeowner - Single	-1%	4%	8%	11%	13%
Unspecified Situation	13%	16%	**17%**	19%	20%

Key Metrics for Value Assessment – Age Pension effect

Mapping of the annuitisation **marginal effect** on Age Pension entitlement over a 67 y-o male's average lifetime by level of assessable asset before purchase and % invested into a lifetime income.



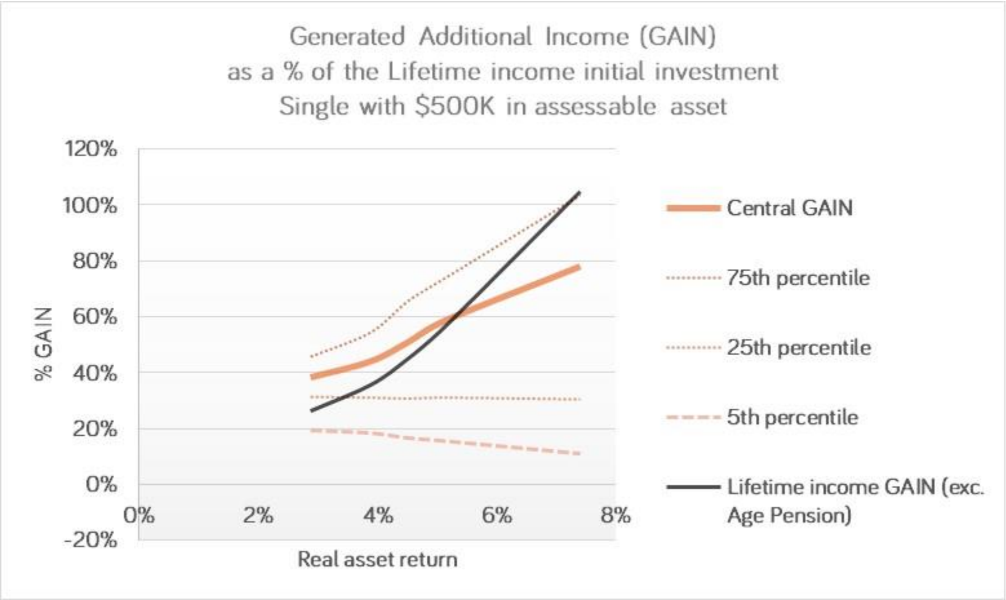
Zones of interest:

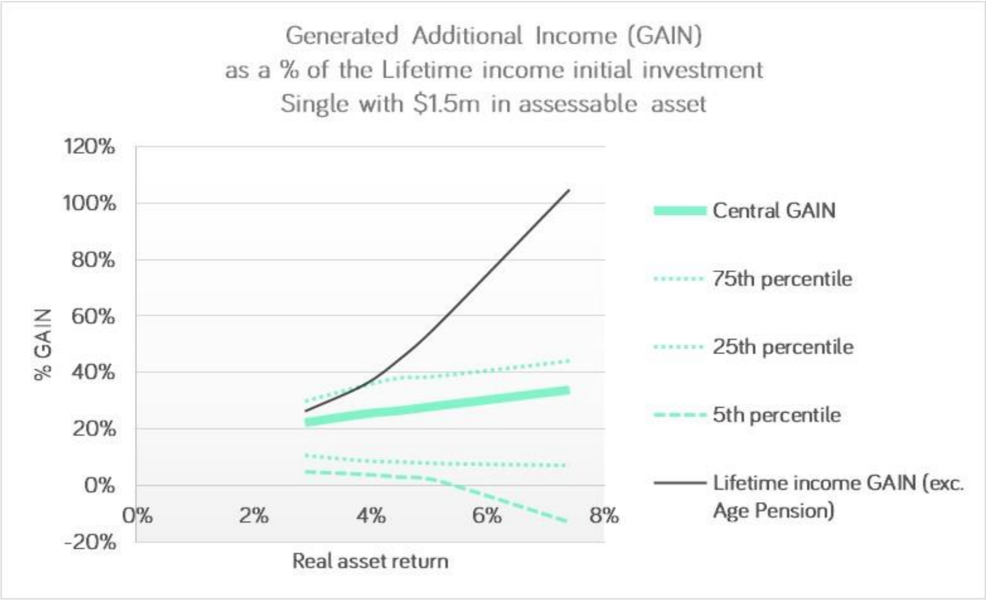
- Income-test free zone below the first threshold
- The Age Pension acceleration zone

Red zone: $1 invested in lifetime income reduces PV of Age Pension entitlements, assuming programmed depletion of asset

Case Study - Description

- 67 Year-old Male retiring with assessable asset A and purchasing a lifetime income with x% of their asset
- Investment-linked lifetime income with a choice of 5 different classes of assets.
- De Ravin, J. (2015) used to simulate 1000 different scenarios of asset returns.
- Age at Death stochastically simulated with survival quantile function of a N(0,1) variable
- Stochastically Generated Additional Income compared to a risk-free drawdown strategy.





- The Generated Additional Income as a proportion of the Lifetime income initial investment (Central GAIN) increases with the expected investment return with 50% CI widening with the increased risk
- The Central GAIN % depends on the assessable asset, with mid-wealth retiree getting more out of it.

Case Study - Observations

Age Pension as a Stabilizer

- For the mid-wealth retiree, the income-test of the age pension is a stabilizer.
- Higher returns are dampened by the income test (50 cents for the dollar).
- Downside risk is partially offset by higher age pension.
- The age pension allows the retiree to invest in riskier asset with the same risk of loss.

Age Pension as a Disincentive

- For the low-wealth retirees, higher returns can make the income tip over the income-test threshold ($9K p.a. for a single), leaving them exposed to the income-test penalty, while the downside risk is carried in full.
- For high-wealth retirees expecting age pension after depleting their assessable asset, higher returns can compromise future entitlements while leaving them the full downside risk.
- **In both cases, the income–test distorts the normal reward-risk dynamic by penalising the upside.**

Case study - Conclusion

A higher-return, higher-risk allocation may be suitable for mid-wealth retirees who receive a partial Age Pension and have sufficient assets to withstand adverse market conditions. The Age Pension can act as a stabiliser, supporting riskier investment within the individual risk tolerance.

A higher-return, higher-risk allocation may not be appropriate for low-wealth retirees who receive the full Age Pension, nor for high-wealth retirees who are likely to become Age Pension-eligible after their assessable assets are drawn down. In both cases, the reward vs risk dynamic is distorted by Age Pension rules.

This case study underscores the critical role that guaranteed lifetime income solutions can play in supporting financial security in retirement.

General Conclusion

It is not sufficient to claim Lifetime income products always leave members better off,

it must be demonstrated.

Superfunds should quantify the value of lifetime income solutions at the cohort level, if not at the individual level, using tailored mortality rates and risk tolerance.

A robust framework integrates **Additional income, Probability of Being Better Off, and individual income at risk.**

Such framework can support the design of cohort-based retirement income strategies and allow different strategies to be compared.

A case study showed High-return high-risk lifetime income are not appropriate for everyone, Guaranteed income may at times offer greater value.

Thank you for your attention!

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